INDUSTRIAL ARTS
GRADE 5 TO SENIOR 4
LEARNING RESOURCES

Annotated Bibliography:
A Reference for Selecting Learning Resources

June 2004

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INTRODUCTION

References for Selecting Learning Resources

Industrial Arts Grade 5 to Senior 4 Learning Resources: Annotated Bibliography: A Reference for Selecting Learning Resources is a reference tool provided by Manitoba Education, Citizenship and Youth to help educators select student and teacher learning resources that support Technology Education programming. This compilation is intended to be used as a reference for selecting learning resources, along with the *Manitoba Text Book Bureau Catalogue of Learning Resources*, which lists Technology Education including Industrial Arts production skill areas and provides ordering information and prices. The learning resources can also be purchased by visiting the online version of The Manitoba Text Book Bureau (MTBB) catalogue at <http://www.mtbb.mb.ca>.

Most of the learning resources are also available to Manitoba educators from the Instructional Resources Unit (IRU) library, whose online catalogue is available at <http://libcat.merlin.mb.ca>.

Organization

The **learning resources** appear by production skill. The production skills are:

- Drafting Design Technology
- Electricity/Electronics Technology
- Graphic Communication Technology
- Metalwork Technology
- Power Mechanics Technology
- Woodworking Technology

Multi-component resources have an overall annotation (describing the components and organization of the resource), followed by descriptions of the individual components. The title of each multi-component resource appears in **blue type**. The title of each stand-alone resource appears in **green type**.

The descriptions of Industrial Arts learning resources include references to the general learning outcomes (GLOs): Production Skills, Personal Skills, Fundamental Skills, and Safety. For descriptions of the GLOs, please refer to the introductory sections for each GLO in *Senior Years Industrial Arts: Manitoba Curriculum Framework of Outcomes* (2004).

A **sample resource description** appears on page 9.

The **Distributor Directory** at the end of the bibliography provides an alphabetical listing of distributors, including their addresses.

Learning Resources Reviews

The learning resources listed in *Industrial Arts Grade 5 to Senior 4 Learning Resources: Annotated Bibliography: A Reference for Selecting Learning Resources* were reviewed for the purpose of identifying materials that support Manitoba's Industrial Arts education curriculum. Educators from across Manitoba participated in the reviews. All review participants were selected by Manitoba Education, Citizenship and Youth from superintendent nominations.

In September 2003 Manitoba Education, Citizenship and Youth issued calls to publishers, producers, and distributors for Industrial Arts Grade 5 to Senior 4 education resources. In February 2004, teams of teacher-evaluators from Manitoba schools examined the learning resources submitted in response to the respective calls and made recommendations regarding the suitability of the resources using a collaborative review process.

This compilation of annotated bibliographies identifies and describes the learning resources that evaluators selected in the 2004 review.

Resource Selection Criteria

The selection of learning resources was based on the fidelity with the rationale, philosophy, processes, and learning outcomes identified in *Senior Years Industrial Arts: Manitoba Curriculum Framework of Outcomes (2004)*, and *Keeping Your Facilities Safe: A Support Document for Industrial Arts Teachers (2003)*.

The learning resources in this annotated bibliography were selected according to the following criteria:

- **Curriculum Fit/Content/Philosophy:** Evaluators determined the suitability of each learning resource by considering the degree to which the content and processes of the resource align with the curriculum, thus providing support for teacher implementation. They also considered grade-appropriateness.
- **Instructional Design:** Evaluators determined the appropriateness of the resource in terms of instructional design, determining the degree to which the resource states instructional goals and learner outcomes, and addresses a variety of learning and teaching styles.
- **Social Considerations:** Evaluators determined the appropriateness of the resource in terms of social concerns. They considered the degree to which the resource is free of bias and stereotyping, includes Canadian content, and utilizes culturally diverse examples.
- **Technical Design:** Evaluators determined the appropriateness of the resource in terms of technical design, considering the degree to which the resource is visually interesting, appealing, and has a logical and consistent form.

When using this annotated bibliography to select learning and teaching resources, teachers should consider how the resources meet the learning requirements of students and the perspectives of their own student population.

Information on a specific learning resource may be obtained from the descriptive information in this annotated bibliography, as well as from the supplier, published reviews, colleagues, and an examination of the resource.

Terms and Definitions

The following terms and definitions are used in this annotated bibliography to describe the learning resources:

- **Breadth:** identifies student learning resources that address a wide range of topics (with the highest possible level of fidelity with the curriculum framework) for a particular grade.
- **Depth:** identifies student learning resources (with the highest possible level of fidelity with the curriculum framework) that provide especially effective learning experiences for a particular grouping of student learning outcomes.
- **Breadth and Depth:** identifies comprehensive learning resources that provide both breadth and depth dimensions for a particular grouping of student learning outcomes.
- **Teacher Professional Reference:** contains theory and/or practice and/or history and/or classroom strategies to assist teachers in teaching.
- **Teacher Reference:** stand-alone resource—the intended audience is teachers. A depth resource on a specific topic, for example, the wood lathe.
- **Student Reference:** stand-alone resource—the intended audience is students. Typically a depth resource on a specific area or topic.
- **Multi-component Resource:** multi-component and/or multi-grade resources which may or may not include a teacher resource. The titles are listed in blue type.
- **Stand-alone Resource:** a single resource. The titles are listed in green type.

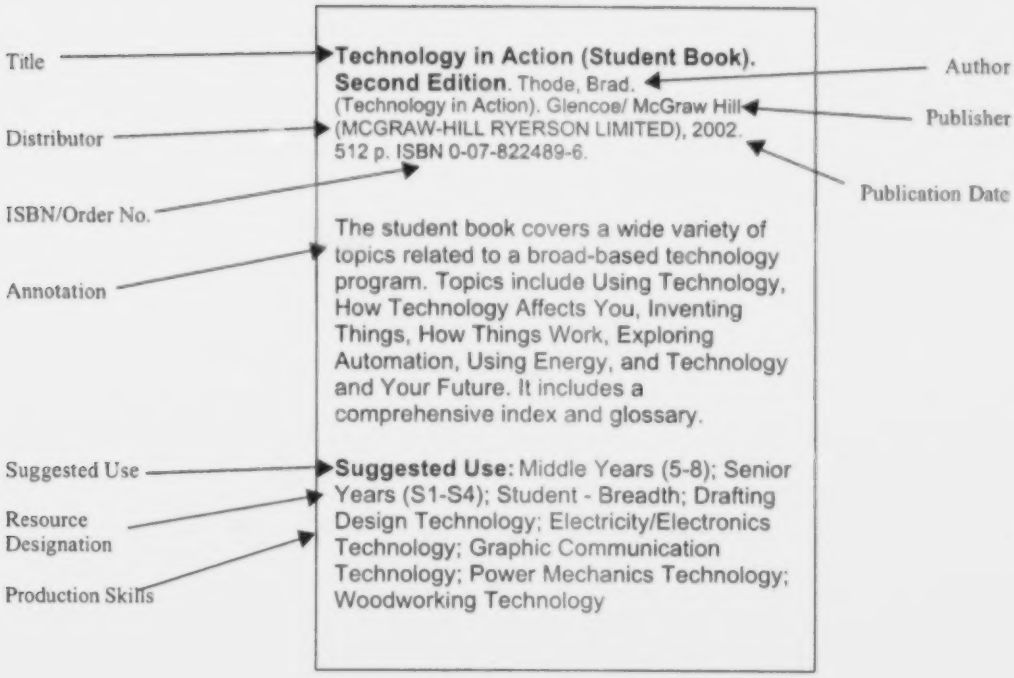
Resource Description: Definitions

The following information is provided for each learning and teaching resource (as applicable):

- **Annotation:** provides an overall description of the resource. Brief annotations of individual components and/or groups of components are also provided.
- **Author(s):** refers to the author(s), editor(s), or director(s) of the resource. When a resource has more than two authors/editors, only the first name is cited, followed by "et al."
- **Collation:** specifies the number of pages of the resource.
- **Distributor:** is in parentheses following the publisher or producer. The full addresses, fax numbers, and telephone numbers of these companies are given in the Distributor Directory.
- **Media Designation:** refers to resource categories, such as print, software, or video.
- **Suggested Use:** indicates the grade(s) and GLO(s)/strand(s)/topic(s) for which the resource is most suitable and identifies the resource designation. *Resource designation* refers to classifications such as the following:
  - — student breadth, depth, or breadth and depth
  - — teacher professional reference
  - — teacher reference

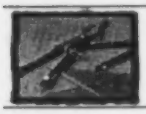
  The resource designation for a multi-component resource applies to the resource as a whole. Please note, for example, that a multi-component resource may be designated as student depth and breadth and as teacher reference. This indicates that the audience for the resource is students, but the resource also includes teacher support material.
- **System Requirements:** specifies the system requirements needed to operate the software resource successfully. Abbreviations used: MB—megabyte; RAM—random-access memory.
- **Title:** refers to the name of the resource. All titles are listed by production skills and in alphabetical order.

Resource Description: Sample Page


Title
Distributor
ISBN/Order No.
Annotation
Suggested Use
Resource Designation
Production Skills
Author
Publisher
Publication Date
Technology in Action (Student Book). Second Edition. Thode, Brad. (Technology in Action). Glencoe/ McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 512 p. ISBN 0-07-822489-6.
The student book covers a wide variety of topics related to a broad-based technology program. Topics include Using Technology, How Technology Affects You, Inventing Things, How Things Work, Exploring Automation, Using Energy, and Technology and Your Future. It includes a comprehensive index and glossary.
Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Note: Definitions of resource descriptions appear on page 8.

Alphabetical List of Learning Resources by Production Skills



Drafting Design Technology

The title of each multi-component resource appears in **blue type.** The title of each stand-alone resource appears in **green type.**

Middle Years/Senior Years Resources

Technology in Action. Second Edition
(Multi-component Resource). (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED).

This multi-component resource is recommended for Grade 5-Senior 4 students. It depicts technology in daily life, including technological inventions, automation, using energy, how technology affects you, and technology and the future. It includes a student text, an interactive CD-ROM, and a teacher resource guide. The resource provides interesting facts, safety notes, references, and related math and science concepts. It is presented in a factual manner, allowing students to research, discuss, and draw their own conclusions. The resource demonstrates moderate coverage of personal skills and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes, and uses both metric and imperial systems of measurement.

Technology in Action (Student Book). Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 512 p. ISBN 0-07-822489-6.

The student book covers a wide variety of topics related to a broad-based technology program. Topics include Using Technology, How Technology Affects You, Inventing Things, How Things Work, Exploring Automation, Using Energy, and Technology and Your Future. It includes a comprehensive index and glossary.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Technology in Action Interactive CD-ROM. Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. ISBN 0-07-822491-8.

There are two sections to the CD: the student portfolio and the teacher desk. The student portfolio includes resources supplementary to the text, interactive activities, and a template for creating a portfolio. The teacher desk contains rubrics, related information, a test generator, transparencies, lesson plans, handouts, suggested activities, and ideas on how to make the classroom inclusive in a cooperative setting.

System Requirements:
Windows
- Windows 95
- Internet Explorer 5.0 or Netscape 4.7
- QuickTime 3.0

Macintosh
- OS 9.0
- Internet Explorer 4.5 or Netscape 4.7
- QuickTime 3.0
- AppleWorks 6.0

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Teacher Reference; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Technology in Action Teacher Resource Guide. Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 320 p. ISBN 0-07-822490-X.

The teacher resource guide contains supplementary resources related to the text, including overheads, activities, lesson plans, sample tests, safety information, and a rationale for teaching Technology Education.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Senior Years Resources

Exploring Drafting (Multi-component Resource). Walker, John R. (Exploring Drafting). Goodheart-Willcox Publisher (NELSON).

This multi-component resource is recommended for Senior 1-Senior 4 students, but could also be used as a reference for Grade 5-Senior 4 classrooms. It addresses a range of topics including drafting fundamentals, careers, sketching, equipment techniques, multi-view drawings, pictorials, working drawings, design, models, maps, welding, architectural CAD, and manufacturing processes. It includes a student textbook, a book of activities, a solution manual, and a teacher resource binder. All materials are cross-referenced. The resource provides moderate coverage of fundamental skills, moderate coverage of personal skills, and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes. It uses both metric and imperial systems of measurement.

Exploring Drafting (Student Text). Walker, John R. (Exploring Drafting). Goodheart-Willcox Publisher (NELSON), 2003. 416 p. ISBN 1-59070-178-X.

The student text introduces students to the basics of drafting. Text and colour illustrations explain the "how to" of drafting in a step-by-step manner. The text provides learning objectives, drafting problems, activities, safety concerns, review questions, an index and a glossary. The difficulty level of the problems is varied so that students with differing abilities will be challenged.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Drafting Design Technology

Exploring Drafting Worksheets. Walker, John R. (Exploring Drafting). Goodheart-Willcox Publisher (NELSON), 2003. 127 p. ISBN 1-59070-180-1.

The workbook contains student sketching activities, measuring activities, dimensioning and lettering activities, and many drawing activities that correspond to the units in the student text. The activities are presented in order of difficulty.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Drafting Design Technology

Exploring Drafting Solution Manual. Walker, John R. (Exploring Drafting). Goodheart-Willcox Publisher (NELSON), 2003. 101 p. ISBN 1-59070-181-X.

The solutions manual provides answers to the "test your knowledge" questions and drawing problems.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Drafting Design Technology

Exploring Drafting Teacher's Resource Binder. Walker, John R. (Exploring Drafting). Goodheart-Willcox Publisher (NELSON), 2003. ISBN 1-59070-182-8.

The teacher's resource manual provides solutions to the problems in the student text and activities. It features scope and sequence charts, basic skills charts, unit objectives and resources, quizzes, colour transparencies, handouts, lists of additional resources, and suggestions for improved teaching methods.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Drafting Design Technology

Mechanical Drawing: Board and CAD Techniques. Thirteenth Edition (Multi-component Resource). (Mechanical Drawing: Board and CAD Techniques). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED).

This multi-component resource is recommended for Senior 1-Senior 4 students. It addresses drafting principles, board drafting techniques, and CAD techniques, and promotes problem-solving, design, and individual and group work. It includes a student text, a student workbook, an instructor resource guide, an instructor's productivity CD-ROM, and an instructor's workbook that corresponds with the student workbook. The resource provides extensive coverage of safety concepts within the Industrial Arts curriculum framework of outcomes and uses both metric and imperial systems of measurement.

Mechanical Drawing: Board and CAD Techniques (Student Book). Thirteenth Edition. French, Thomas E. (Mechanical Drawing: Board and CAD Techniques). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2003. 864 p. ISBN 0-07-825100-1.

The chapters in the student book are divided into three sections: drafting principles, board drafting techniques, and CAD techniques. This structure enables students to learn drafting principles before practising board or CAD techniques. Each chapter features a review, drafting problems, design problems, technical math, tips for success on the job, techniques related to CAD procedures, and several illustrations. An index and glossary are included.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Drafting Design Technology

Mechanical Drawing: Board and CAD Techniques Student Workbook. Thirteenth Edition. Helsel, Jay D. (Mechanical Drawing: Board and CAD Techniques). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2003. 256 p. ISBN 0-07-825101-X.

The workbook contains drafting and design activities, careers activities, single- and multi-view drawing activities, and pattern development activities that correspond to the chapters in the student text. Real-world activities at the end of the workbook challenge students to draw upon their drafting knowledge and skills to complete problems that drafters face routinely.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Drafting Design Technology

Mechanical Drawing: Board and CAD Techniques Instructor Resource Guide. Thirteenth Edition. French, Thomas E. (Mechanical Drawing: Board and CAD Techniques). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2003. 864 p. ISBN 0-07-825103-6.

The instructor resource guide provides teaching aids and activities. Instructional plans include chapter objectives, drafting standards, activity ideas, assignments, handouts, and answers to the drafting problems and review questions in the student text. One of the handouts for each chapter is a glossary of terms. Other resources include tips for managing a technical drawing program and information about computer/Internet use and workplace skills.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Drafting Design Technology

Mechanical Drawing: Board and CAD Techniques Instructor's Productivity CD-ROM. Thirteenth Edition. Helsel, Jay D. (Mechanical Drawing: Board and CAD Techniques). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2003. ISBN 0-07-825104-4.

The instructor's productivity CD-ROM features instruction plans, slides, and a test generator.

System Requirements:

- 24 MB RAM
- Windows 98, 2000, NT
- 16x CD-ROM drive
- Word 97 or later

Suggested Use: Senior Years (S1-S4); Teacher Reference; Drafting Design Technology

Mechanical Drawing: Board and CAD Techniques Student Workbook Instructor's Annotated Edition. Thirteenth Edition. Helsel, Jay D. (Mechanical Drawing: Board and CAD Techniques). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2003. 256 p. ISBN 0-07-825102-8.

The instructor's edition provides answers to the activities in the student workbook.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Drafting Design Technology

Electricity/Electronics Technology

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Middle Years/Senior Years Resources

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(Multi-component Resource). (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED).

This multi-component resource is recommended for Grade 5-Senior 4 students. It depicts technology in daily life, including technological inventions, automation, using energy, how technology affects you, and technology and the future. It includes a student text, an interactive CD-ROM, and a teacher resource guide. The resource provides interesting facts, safety notes, references, and related math and science concepts. It is presented in a factual manner, allowing students to research, discuss, and draw their own conclusions. The resource demonstrates moderate coverage of personal skills and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes, and uses both metric and imperial systems of measurement.

Technology in Action (Student Book). Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 512 p. ISBN 0-07-822489-6.

The student book covers a wide variety of topics related to a broad-based technology program. Topics include Using Technology, How Technology Affects You, Inventing Things, How Things Work, Exploring Automation, Using Energy, and Technology and Your Future. It includes a comprehensive index and glossary.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Technology in Action Interactive CD-ROM. Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. ISBN 0-07-822491-8.

There are two sections to the CD: the student portfolio and the teacher desk. The student portfolio includes resources supplementary to the text, interactive activities, and a template for creating a portfolio. The teacher desk contains rubrics, related information, a test generator, transparencies, lesson plans, handouts, suggested activities, and ideas on how to make the classroom inclusive in a cooperative setting.

System Requirements:
Windows
- Windows 95
- Internet Explorer 5.0 or Netscape 4.7
- QuickTime 3.0

Macintosh
- OS 9.0
- Internet Explorer 4.5 or Netscape 4.7
- QuickTime 3.0
- AppleWorks 6.0

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Teacher Reference; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Technology in Action Teacher Resource Guide. Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 320 p. ISBN 0-07-822490-X.

The teacher resource guide contains supplementary resources related to the text, including overheads, activities, lesson plans, sample tests, safety information, and a rationale for teaching Technology Education.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Senior Years Resources

Electricity and Electronics (Multi-component Resource). (Electricity and Electronics). Goodheart-Willcox Publisher (NELSON).

This multi-component resource is recommended for Senior 1-Senior 4 students. It addresses electricity and electronics technology and includes practical experiments, projects, and applied activities. It includes a student text, a study guide with lab activities, an instructional manual, and an interactive CD (not evaluated). The resource provides interesting facts, safety notes, cross-curricular references to math and science concepts, and real-world applications. Students are encouraged to research, discuss, and draw their own conclusions. The resource provides moderate coverage of fundamental skills and moderate coverage of personal skills from the Industrial Arts curriculum framework of outcomes, and uses both metric and imperial systems of measurement.

Electricity and Electronics (Student Text). 9th Edition. Gerrish, Howard H. (Electricity and Electronics). Goodheart-Willcox Publisher (NELSON), 2004. 512 p. ISBN 1-59070-207-7.

The student text is divided into five sections: Fundamentals of Electricity and Electronics, Basic Circuits, Motors/Generators and Power Distribution, Advanced Electronic Circuits, and Electronic Communication and Data Systems. Each chapter begins with a list of objectives and includes review questions, a chapter summary, and a self-evaluation. Important terms, formulas, and safety cautions are highlighted. Enrichment features include practical experiments, projects, and applied electronic/electricity activities. It includes a glossary and an index.

Suggested Use: Senior Years (S1-S4); Student - Breadth; Electricity/Electronics Technology

Electricity and Electronics Study Guide with Laboratory Activities. 9th Edition. Gerrish, Howard H. (Electricity and Electronics). Goodheart-Willcox Publisher (NELSON), 2004. 328 p. ISBN 1-59070-208-5.

This study guide is recommended as a supplementary teacher resource. It contains chapter reviews and activity sheets that correspond to the student text. The activity sheets address careers in electronics, fiber optics, AM/FM radio, digital circuits, DC and AC motors, series and parallel circuits, the science of electricity and electronics, and instrumentation and measurement.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Electricity/Electronics Technology

Electricity and Electronics Instructor's Manual. 9th Edition. Gerrish, Howard H. (Electricity and Electronics). Goodheart-Willcox Publisher (NELSON), 2004. 224 p. ISBN 1-59070-209-3.

The instructor's manual corresponds to the student text and provides basic elements of instruction. It includes suggested activities, lesson planning aids, transparencies, handouts, and ideas for making the classroom an inclusive and cooperative setting. Each chapter lists the major topics and the corresponding student activity sheets in the study guide.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Electricity/Electronics Technology

Graphic Communication Technology

The title of each multi-component resource appears in **blue type**. The title of each stand-alone resource appears in **green type.**

Middle Years/Senior Years Resources

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There are two sections to the CD: the student portfolio and the teacher desk. The student portfolio includes resources supplementary to the text, interactive activities, and a template for creating a portfolio. The teacher desk contains rubrics, related information, a test generator, transparencies, lesson plans, handouts, suggested activities, and ideas on how to make the classroom inclusive in a cooperative setting.

System Requirements:
Windows
- Windows 95
- Internet Explorer 5.0 or Netscape 4.7
- QuickTime 3.0

Macintosh
- OS 9.0
- Internet Explorer 4.5 or Netscape 4.7
- QuickTime 3.0
- AppleWorks 6.0

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Teacher Reference; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Technology in Action Teacher Resource Guide. Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 320 p. ISBN 0-07-822490-X.

The teacher resource guide contains supplementary resources related to the text, including overheads, activities, lesson plans, sample tests, safety information, and a rationale for teaching Technology Education.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Senior Years Resources

Graphic Communications: The Printed Image. 4th Edition (Multi-component Resource). (Graphic Communications: The Printed Image). Goodheart-Willcox Publisher (NELSON).

The multi-component resource is recommended for Senior 1-Senior 4 students. The resource addresses graphic communications technology with an emphasis on methods and equipment, environmental considerations, and workplace safety and health. It includes a student text, a workbook, and an instructor's manual. The technical design of the resource is appealing with colour photos, illustrations, and headings. It lacks air brush, video editing, and animation content. The resource demonstrates moderate coverage of personal skills and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes, and uses both metric and imperial systems of measurement.

Graphic Communications: The Printed Image (Student Text). 4th Edition. Prust, Z.A. (Graphic Communications: The Printed Image). Goodheart-Willcox Publisher (NELSON), 2003. 606 p. ISBN 1-56637-984-9.

The student text addresses colour science, digital printing, digital image capture, and colour management, and provides information on design and layout, text composition, page composition, the business aspects of printing, and careers in graphic communications. Each chapter outlines learning objectives and important terms. It features current illustrations, photos, and information, and highlights safety concerns in graphics communications. It includes a comprehensive index and a glossary.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Graphic Communication Technology

Graphic Communications: The Printed Image Workbook. 4th Edition. Prust, Z.A. (Graphic Communications: The Printed Image). Goodheart-Willcox Publisher (NELSON), 2003. 146 p. ISBN 1-56637-985-7.

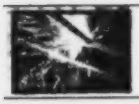
The workbook is recommended as a supplementary teacher resource. It contains activities that correspond to the student text and learning objectives for each chapter. The activities address health and safety, measurement, design and layout, page and text composition, digital image capture, lithograph printing, relief printing, screen printing, and careers in graphic communications.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Graphic Communication Technology

Graphic Communications: The Printed Image Instructor's Manual. 4th Edition. Prust, Z.A. (Graphic Communications: The Printed Image). Goodheart-Willcox Publisher (NELSON), 2003. 236 p. ISBN 1-56637-986-5.

The manual correlates to the student textbook and workbook and is designed to assist the teacher in planning and teaching a graphic communications program. Each chapter features learning objectives, a list of important terms, a guide for lesson planning, suggested activities, a chapter quiz, answer keys, and blackline masters.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Graphic Communication Technology



Metalwork Technology

The title of each multi-component resource appears in **blue type.** The title of each stand-alone resource appears in **green type.**

Middle Years/Senior Years Resources

Exploring Metalworking: Fundamentals of Technology (Multi-component Resource). Walker, John R. (Exploring Metalworking: Fundamentals of Technology). Goodheart-Willcox Publisher (NELSON).

This multi-component resource is recommended for Grade 5-Senior 4 students. It addresses the fundamentals of working with metal, using both hand and power tools. It illustrates major processes in steelmaking, shows how to organize and operate a small manufacturing business in a school lab, explores metalworking careers, and emphasizes the place metals occupy in everyday life. The resource includes a student text, a student workbook, and an instructor guide which is an answer key to the student text and workbook (not reviewed). The instructor's guide is a free resource, included with the purchase of 10 student texts. The resource provides moderate coverage of fundamental skills, moderate coverage of personal skills, and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes. It uses both metric and imperial systems of measurement.

Exploring Metalworking: Fundamentals of Technology (Student Text). Walker, John R. (Exploring Metalworking: Fundamentals of Technology). Goodheart-Willcox Publisher (NELSON), 2003. 272 p. ISBN 1-56637-992-X.

The student text features illustrations, learning objectives, and review questions which could serve as a chapter summary. It highlights metalworking careers, safety considerations, design and measurement, sheet metal, welding, and machinery. It includes a glossary and an index.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Metalwork Technology

Exploring Metalworking: Fundamentals of Technology Workbook. Walker, John R. (Exploring Metalworking: Fundamentals of Technology). Goodheart-Willcox Publisher (NELSON), 2003. 96 p. ISBN 1-56637-993-8.

The workbook is recommended as a supplementary teacher resource. It contains activities that correspond to the student text. The activities address careers in metalworking, planning and designing, safety, measuring and layout tools, sheet metal/art metal, hand forging, casting, welding and brazing, and heat-treating metals.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Metalwork Technology

Modern Metalworking (Multi-component Resource). (Modern Metalworking). Goodheart-Willcox Publisher (NELSON).

This multi-component resource is recommended for Grade 5-Senior 4 students. It provides a broad experience in metalworking through the use of tools, machines, and materials that are basic to the industry. It covers both hand and machine-tool operations, and supplies background knowledge on industrial equipment and processes. The resource includes a student text, a workbook, and an instructor's manual. It demonstrates extensive coverage of fundamental skills, moderate coverage of personal skills, and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes. It uses both metric and imperial systems of measurement.

Modern Metalworking (Student Text). Walker, John R. (Modern Metalworking). Goodheart-Willcox Publisher (NELSON), 2004. 672 p. ISBN 1-59070-224-7.

The student text addresses safety skills, measurement, sheet metal, casting, gas and arc welding, the metal lathe, metal finisher, cold forming, the extrusion process, careers in metalworking, and more. Detailed drawings are provided. An index and glossary are included.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Metalwork Technology

Modern Metalworking Workbook. Walker, John R. (Modern Metalworking). Goodheart-Willcox Publisher (NELSON), 2004. 173 p. ISBN 1-59070-225-5.

The workbook is recommended as a supplementary teacher resource. It contains activities that correspond to the student text. The activities address careers in metalworking, safety practices, measurement, hand tools, hand threading, sheet metal/art metal, sautering and brazing, casting, forging, gas welding, the metal lathe, and machine use. An accident report form is included.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Metalwork Technology

Modern Metalworking Instructor's Manual. Walker, John R. (Modern Metalworking). Goodheart-Willcox Publisher (NELSON), 2004. 352 p. ISBN 1-59070-226-3.

The instructor's manual provides answers to the questions and assignments in the student workbook. It also includes reproducible masters, guides for lesson planning, learning objectives, and assignment and assessment information.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Metalwork Technology

Power Mechanics Technology

The title of each multi-component resource appears in **blue type.** The title of each stand-alone resource appears in **green type.**

Middle Years/Senior Years Resources

Technology in Action. Second Edition (Multi-component Resource). (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED).

This multi-component resource is recommended for Grade 5-Senior 4 students. It depicts technology in daily life, including technological inventions, automation, using energy, how technology affects you, and technology and the future. It includes a student text, an interactive CD-ROM, and a teacher resource guide. The resource provides interesting facts, safety notes, references, and related math and science concepts. It is presented in a factual manner, allowing students to research, discuss, and draw their own conclusions. The resource demonstrates moderate coverage of personal skills and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes, and uses both metric and imperial systems of measurement.

Technology in Action (Student Book). Second Edition. Thode, Brad. (Technology in Action). Glencoe/ McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 512 p. ISBN 0-07-822489-6.

The student book covers a wide variety of topics related to a broad-based technology program. Topics include Using Technology, How Technology Affects You, Inventing Things, How Things Work, Exploring Automation, Using Energy, and Technology and Your Future. It includes a comprehensive index and glossary.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Drafting Design Technology; Electricity/Electronics Technology;

Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Technology in Action Interactive CD-ROM. Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. ISBN 0-07-822491-8.

There are two sections to the CD: the student portfolio and the teacher desk. The student portfolio includes resources supplementary to the text, interactive activities, and a template for creating a portfolio. The teacher desk contains rubrics, related information, a test generator, transparencies, lesson plans, handouts, suggested activities, and ideas on how to make the classroom inclusive in a cooperative setting.

System Requirements:
Windows
- Windows 95
- Internet Explorer 5.0 or Netscape 4.7
- QuickTime 3.0

Macintosh
- OS 9.0
- Internet Explorer 4.5 or Netscape 4.7
- QuickTime 3.0
- AppleWorks 6.0

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Teacher Reference; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Technology in Action Teacher Resource Guide. Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 320 p. ISBN 0-07-822490-X.

The teacher resource guide contains supplementary resources related to the text, including overheads, activities, lesson plans, sample tests, safety information, and a rationale

for teaching Technology Education.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Senior Years Resources

Auto Fundamentals. 9th Edition (Multi-component Resource). (Auto Fundamentals). Goodheart-Willcox Publisher (NELSON).

This multi-component resource is recommended for Senior 1-Senior 4 students. It addresses the theory of operation and construction of automotive systems, rather than service and repair. It is applicable to all vehicles. Students acquire a basic understanding of automotive theory and develop skills necessary for future automotive courses. The resource includes a student text, a workbook, and an instructor's manual. It provides moderate coverage of fundamental skills and personal skills from the Industrial Arts curriculum framework of outcomes, and uses both metric and imperial systems of measurement.

Auto Fundamentals (Student Text). 9th Edition. Stockel, Martin W. (Auto Fundamentals). Goodheart-Willcox Publisher (NELSON), 2000. 607 p. ISBN 1-56637-577-0.

The student text describes the basic operation of modern automobiles. It covers how each automotive system works, why it is needed, and its role in overall vehicle operation. It explains each system by starting with basic theory, then parts are added until the system is complete. Chapters outline learning objectives, important concepts, terminology, skills, and safety warnings. Review questions are provided. It includes an index and a glossary.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Power Mechanics Technology

Auto Fundamentals Workbook. 9th Edition. Stockel, Martin W. (Auto Fundamentals). Goodheart-Willcox Publisher (NELSON), 2000. 351 p. ISBN 1-56637-578-9.

The workbook is recommended as a supplementary teacher resource. It contains activities that correspond to the student text and learning outcomes for each chapter. The activities address tool identification, safety, electrical systems, drive train systems, steering and suspension, wheels, brakes tires and wheel alignment, heating and air conditioning, and career opportunities.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Auto Fundamentals Instructor's Manual. 9th Edition. Stockel, Martin W. (Auto Fundamentals). Goodheart-Willcox Publisher (NELSON), 2000. 300 p. ISBN 1-56637-579-7.

The instructor's manual corresponds to the student textbook and workbook. The lessons and materials are presented in a step-by-step sequence. The manual includes quizzes, answer keys, tips for facility design, and instructional strategies. It indicates the interdisciplinary skills developed in each chapter.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Automotive Service: Inspection, Maintenance, and Repair. Second Edition (Multi-component Resource). Gilles, Tim. (Automotive Service: Inspection, Maintenance, and Repair). Delmar Learning (NELSON).

This multi-component resource is recommended for Senior 1-Senior 4 students. It represents a training system for automotive technicians in concurrence with ASE and NATEF standards in the US. It includes a student text, a student lab manual, an electronic management system on CD, and an instructor's guide. The resources can be used in an automotive repair class, to train an entry-level or apprentice technician, or to prepare a more experienced technician for ASE

certification. The resource provides moderate coverage of fundamental skills, moderate coverage of personal skills, and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes. It uses both metric and imperial systems of measurement.

Automotive Service: Inspection, Maintenance, and Repair (Student Text). Second Edition. Gilles, Tim. (Automotive Service: Inspection, Maintenance, and Repair). Delmar Learning (NELSON), 2004. 1276 p. ISBN 1-4018-1234-1.

The student text addresses the entire automobile and theory of vehicle systems at an introductory level, followed by service, diagnosis, and light repairs at a more advanced level. Students are introduced to the most frequently performed inspection and service procedures, from safety inspections to tire and wheel service. Each chapter begins with learning objectives and key terms. Case histories, science and math interdisciplinary notes, shop tips, safety notes, and cautionary notes are included. The text addresses the eight fundamental automotive ASE certification areas and advanced emission controls. It includes a glossary and an index.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Power Mechanics Technology

Automotive Service: Inspection, Maintenance, and Repair: Lab Manual to Accompany Automotive Service: Inspection, Maintenance, and Repair. Second Edition. Gilles, Tim. (Automotive Service: Inspection, Maintenance, and Repair). Delmar Learning (NELSON), 2004. 660 p. ISBN 1-4018-1235-X.

The lab manual is recommended as a supplementary teacher resource. Part 1 contains activities that address engine operation and service, cooling and fuel systems, the electrical system, suspension and steering systems, and the drive train system. Part 2 contains activities that address oil change and service, tire and wheel service, under the hood inspection, electrical service, tune-up service, and belt, hose, and cooling system service.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Automotive Service: Inspection, Maintenance, and Repair: e.resource: An Instructor's Electronic Management System. Second Edition. Gilles, Tim. (Automotive Service: Inspection, Maintenance, and Repair). Delmar Learning (NELSON), 2004. ISBN 1-4018-1236-8.

The CD includes an instructor's guide, a test bank, a PowerPoint presentation for each chapter in the student text, an image gallery, and ASE and NATEF correlations.

System Requirements:
- Windows 95 or newer
- Pentium or faster
- 16 MB RAM
- 8 speed CD-ROM or faster

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Automotive Service: Inspection, Maintenance, and Repair: Instructor's Guide to Accompany Automotive Service: Inspection, Maintenance, and Repair. Second Edition. Gilles, Tim. (Automotive Service: Inspection, Maintenance, and Repair). Delmar Learning (NELSON), 2004. 236 p. ISBN 1-4018-1237-6.

The instructor's guide includes lesson plans, quizzes, suggestions for lectures and labs, demonstrations, and answer keys to the tests and study questions in the student text and lab manual. Sample grading strategies and course timelines are also included. Correlation to ASE and NATEF test questions is stressed.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Glencoe Automotive Excellence (Multi-component Resource). (Glencoe Automotive Excellence). McGraw-Hill Ryerson Limited (MCGRAW-HILL RYERSON LIMITED), 2004.

This multi-component resource is recommended for Senior 1-Senior 4 students. It addresses both technical and applied academic skills of auto mechanics. It includes a two-volume student text, an academic applications guide, a two-volume technical applications guide, an instructor's resource guide, a two-volume instructor productivity CD-ROM set, and a transparency package (not evaluated). The resource covers the major components of automotive mechanics with pictures and diagrams that illustrate and reinforce the concepts. Areas of study include Engine Repair, Heating and Air Conditioning, Automatic Transmission and Transaxle, Manual Drive Train and Axle, Brakes, Electrical and Electronic Systems, Engine Performance, and Suspension and Steering. The Academic Applications resource provides skill-building activities that incorporate communication, mathematics, and science principles. The resource demonstrates extensive coverage of production skills and moderate coverage of fundamental skills from the Industrial arts curriculum framework of outcomes. It is based on American safety standards, and uses both metric and imperial systems of measurement.

Glencoe Automotive Excellence: Volume 1 (Student Text). Frazier, Leroy, et al. (Glencoe Automotive Excellence). McGraw-Hill Ryerson Limited (MCGRAW-HILL RYERSON LIMITED), 2004. ISBN 0-07-860015-4.

Volume 1 of the student contains 29 chapters. Areas of study include Brakes, Electrical and Electronic Systems, Engine Performance, and Suspension and Steering. Each section begins with a career focus activity and sample newspaper ads. Each chapter begins with projected learning outcomes, terminology, and a problem and challenge area. "Safety first" balloons and tech tips appear throughout, as well as chapter reviews, review questions, and information that focuses on interpersonal and workplace skills. It includes an index and a glossary.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Power Mechanics Technology

Glencoe Automotive Excellence: Volume 2 (Student Text). Frazier, Leroy, et al. (Glencoe Automotive Excellence). McGraw-Hill Ryerson Limited (MCGRAW-HILL RYERSON LIMITED), 2004. ISBN 0-07-860010-3.

Volume 2 of the student text contains 29 chapters. Areas of study include Engine Repair, Heating and Air Conditioning, Automatic Transmission and Transaxle, and Manual Drive Train and Axles. Each section begins with a career focus activity and sample newspaper ads. Each chapter begins with projected learning outcomes, terminology, and a problem and challenge area. "Safety first" balloons and tech tips appear throughout, as well as chapter reviews, review questions, and information that focuses on interpersonal and workplace skills. It includes an index and a glossary.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Power Mechanics Technology

Glencoe Automotive Excellence: Academic Applications. (Glencoe Automotive Excellence). McGraw-Hill Ryerson Limited (MCGRAW-HILL RYERSON LIMITED), 2004. 384 p. ISBN 0-07-860013-8.

This resource contains 245 skill-building academic activities that reinforce the eight sections of the student text (volume 1 and 2). The activities address communications skills, mathematics skills, and science skills that students apply across a wide range of problem-solving exercises. The applied communication skills activities encourage students to develop skills in writing, reading, and listening; the applied mathematics skills activities encourage students to develop competency using mathematical formulas; and the applied science skills activities promote linkages between science principles and automotive technology.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Power Mechanics Technology

Glencoe Automotive Excellence: Volume 1: Technical Applications. Chappell, Ron, et al. (Glencoe Automotive Excellence). McGraw-Hill Ryerson Limited (MCGRAW-HILL RYERSON LIMITED), 2004. 312 p. ISBN 0-07-86008-1.

Volume 1 of the technical application guide corresponds to volume 1 of the student text. It is divided into the four areas of study to correlate with the student text: career profile, diagnostic activities, job sheets, and challenge activities. In the career profile activities students research a variety of automotive career paths and record their findings. In the diagnostic activities students record their diagnoses for given problems related to safety, tools, and equipment. In the job sheets section students perform tasks, recording safety precautions, tools needed, and corrective action. In the challenge activities students review symptoms of a given problem and record causes, safety implications, and tools needed.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Power Mechanics Technology

Glencoe Automotive Excellence: Volume 2: Technical Applications. Chappell, Ron, et al. (Glencoe Automotive Excellence). McGraw-Hill Ryerson Limited (MCGRAW-HILL RYERSON LIMITED), 2004. 448 p. ISBN 0-07-860011-1.

Volume 2 of the technical application guide corresponds to volume 2 of the student text. It is divided into the four areas of study to correlate with the student text: career profile, diagnostic activities, job sheets, and challenge activities. In the career profile activities students research a variety of automotive career paths and record their findings. In the diagnostic activities students record their diagnoses for given problems related to safety, tools, and equipment. In the job sheets section students perform tasks, recording safety precautions, tools needed, and corrective action. In the challenge activities students review symptoms of a given problem and record causes, safety implications, and tools needed.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Power Mechanics Technology

Glencoe Automotive Excellence: Instructor Resource Guide. (Glencoe Automotive Excellence). McGraw-Hill Ryerson Limited (MCGRAW-HILL RYERSON LIMITED), 2004. includes CD-ROM. ISBN 0-07-860014-6.

The instructor resource guide corresponds to both volumes of the student text. It features an answer key CD-ROM, instructional plans, safety-first practices, pre- and post-multiple choice tests, chapter tests, and 16 colour transparencies. The instructional plans are also located in the instructor's productivity CD-ROM.

System Requirements:
- Windows 98 or later version

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Glencoe Automotive Excellence: Volume 1: Instructor Productivity CD-ROM. (Glencoe Automotive Excellence). McGraw-Hill Ryerson Limited (MCGRAW-HILL RYERSON LIMITED), 2004. ISBN 0-07-860016-2.

Volume 1 of the instructor productivity CD-ROM corresponds with volume 1 of the student text. It contains instructional plans in Microsoft Word which may be altered to meet teacher needs, and PowerPoint slides that highlight key sections of the student text. The exam viewer and test generator enables teachers to create customized tests and quizzes by choosing from a bank of over 800 questions and/or adding their own questions.

System Requirements:
- 24 MB RAM
- Display resolution of 800 x 600
- 16-bit colour
- Windows 98 or later version
- 16x CD-ROM drive

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Glencoe Automotive Excellence: Volume 2: Instructor Productivity CD-ROM. (Glencoe Automotive Excellence). McGraw-Hill Ryerson Limited (MCGRAW-HILL RYERSON LIMITED), 2004. ISBN 0-07-860012-X.

Volume 2 of the instructor productivity CD-ROM corresponds with volume 2 of the student text. It contains instructional plans in Microsoft Word which may be altered to meet teacher needs, and PowerPoint slides that highlight key sections of the student text. The exam viewer and test generator enables teachers to create customized tests and quizzes by choosing from a bank of over 800 questions and/or adding their own questions.

System Requirements:

- 24 MB RAM
- Display resolution of 800 x 600
- 16-bit colour
- Windows 98 or later version
- 16x CD-ROM drive

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Modern Automotive Technology (Multi-component Resource). (Modern Automotive Technology). Goodheart-Willcox Publisher (NELSON).

This multi-component resource is recommended for Senior 1-Senior 4 students. It provides an introduction to auto technology, engines, computer systems, fuel systems, electrical systems, cooling and lubrication systems, emission control systems, engine performance, engine service and repair, drive trains and axles, suspension steering and brake systems, heating and air conditioning systems, and safety security and navigation systems. The service and repair information is kept separate from the fundamentals of operation information. The resource includes a student text, a workbook, an instructor's manual, an instructor's resource binder, an instructor's resource CD with test creation software, and a teacher's wraparound edition of the student text. It demonstrates extensive coverage of fundamental skills, moderate coverage of personal skills, and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes. It uses both metric and imperial systems of measurement.

Modern Automotive Technology (Student Text). Duffy, James E. (Modern Automotive Technology). Goodheart-Willcox Publisher (NELSON), 2004. 1592 p. ISBN 1-59070-186-0.

The 79-chapter student text introduces students to the fundamentals of every automobile system and goes on to explain how to service and repair each system. Each chapter includes learning objectives, important terms, review questions, questions and activities, illustrations and flow charts, and a "Duff's Garage" feature which includes problems, diagnosis, and repair. Special notices throughout the text highlight technical information, cautions, and references to pertinent material in other parts of the text. It includes an index and a glossary.

Suggested Use: Senior Years (S1-S4); Student - Breadth; Power Mechanics Technology

Modern Automotive Technology Workbook. Duffy, James E. (Modern Automotive Technology). Goodheart-Willcox Publisher (NELSON), 2004. 517 p. ISBN 1-59070-188-7.

The workbook is recommended as a supplementary teacher resource. It contains activities that correspond to the student text and identifies learning outcomes for each section. The activities address automotive technology, engines, computer systems, computer and fuel systems, electrical, cooling and lubrication systems, emission control systems, engine service and repair, drive trains and axles, suspension, steering and brakes, and heating and air conditioning.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Modern Automotive Technology Instructor's Manual. Duffy, James E. (Modern Automotive Technology). Goodheart-Willcox Publisher (NELSON), 2004. ISBN 1-59070-190-9.

The instructor's manual correlates to the student text and includes tips and instructional strategies. It features competency checklists, scope and sequence charts, a basic skills chart, chapter quizzes, ASE practice tests, and information on environmental safety.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Modern Automotive Technology Instructor's Resource Binder. Duffy, James E. (Modern Automotive Technology). Goodheart-Willcox Publisher (NELSON), 2004. ISBN 1-59070-191-7.

The instructor's resource binder contains NATEF correlation charts, pedagogical charts, an overview of the course organization, training certification programs, a NATEF competency checklist, safety environmental resources, chapter resources, quizzes and tests, blackline masters, and colour transparencies. It includes the answers to all textbook review questions, workbook questions, chapter quizzes, and practice tests.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Modern Automotive Technology Instructor's Resource CD with G-W Test Creation Software. Duffy, James E. (Modern Automotive Technology). Goodheart-Willcox Publisher (NELSON), 2004. ISBN 1-59070192-5.

This resource combines the instructor's resource binder and test creation software in a single CD-ROM. It includes a PowerPoint presentation for each chapter of the student text. It also provides a large database of questions which enables the instructor to create customized tests.

System Requirements:

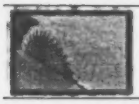
- Windows 95 or later
- Minimum 8 megabytes of memory (16 megabytes RAM recommended)
- Minimum 20 megabytes disk space
- Acrobat reader (also supplied on CD)
- Printer

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology

Modern Automotive Technology Teacher's Wraparound Edition. Duffy, James E. (Modern Automotive Technology). Goodheart-Willcox Publisher (NELSON), 2004. 1592 p. ISBN 1-59070-187-9.

The instructor's wraparound edition is a replica of the student text with additional sidebar teacher information including activities, demonstrations, discussion topics, terminology, and resources. It provides ideas for evaluation, assessment, and reinforcement.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Power Mechanics Technology



Woodworking Technology

The title of each multi-component resource appears in **blue type**. The title of each stand-alone resource appears in **green type**.

Middle Years/Senior Years Resources

Modern Woodworking: Tools, Materials and Processes (Multi-component Resource). (Modern Woodworking). Goodheart-Willcox Publisher (NELSON).

This multi-component resource is recommended for Grade 5-Senior 4 students. It provides basic information about wood and wood products; the selection, safe use, and care of hand tools; proper woodworking procedures; and residential construction application. It includes a student text, a workbook, and an instructor's guide/ answer key. The content is well organized with detailed drawings and pictures. The resource demonstrates extensive coverage of fundamental skills, moderate coverage of personal skills and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes. It uses both metric and imperial systems of measurement.

Modern Woodworking: Tools, Materials and Processes (Student Text). Wagner, Willis H., et al. (Modern Woodworking). Goodheart-Willcox Publisher (NELSON), 2004. 644 p. ISBN 1-59070-253-0.

The student text is designed to give students insight into the major areas of woodworking and to serve as a reference for design and construction principles and methods. It is intended to help students develop competent technical skills for good performance in woodworking, and to gain experience maintaining and setting up equipment, materials, and processes. It includes an index and a glossary.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth and Depth; Woodworking Technology

Modern Woodworking: Tools, Materials and Processes Workbook. Wagner, Willis H. et al. (Modern Woodworking). Goodheart-Willcox Publisher (NELSON), 2004. 157 p. ISBN 1-59070-254-9.

The workbook is recommended as a supplementary teacher resource. It contains activities that correspond to the student text. The activities address planning and designing safety, adhesives and clamping, machine use, framing of floors/walls/roofs/doors/windows, career opportunities, and mass production.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

Modern Woodworking: Tools, Materials and Processes Instructor's Guide. Wagner, Willis H., et al. (Modern Woodworking). Goodheart-Willcox Publisher (NELSON), 2004. 31 p. ISBN 1-59070-255-7.

The instructor's guide provides an answer key with limited information on instructional methodology, lab responsibilities, instructional media, mass-production projects, and evaluation.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

The Router. Revised Edition (Print). Rosendahl, Robert R. Oak Park Enterprises Ltd. (OAK PARK ENTERPRISES LTD.), 1986. 134 p. ISBN 0-919823-02-5.

The Router is a Manitoba teacher reference resource for Grade 5-Senior 4. It addresses routers and their uses, bits and cutters, jigs fixtures, maintenance, and the practical application and uses of a portable router. The information flows from general knowledge and usage to comprehensive application in the form of project work. It features clear illustrations.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

Router Projects and Jigs (Print). Rosendahl, Robert and Rick. Oak Park Enterprises Ltd. (OAK PARK ENTERPRISES LTD.), 1994. ISBN 0-919823-04-1.

Router Projects and Jigs is a Manitoba teacher reference resource for Grade 5-Senior 4. It offers step-by-step instructions for introductory, intermediate, and advanced projects, supported with photos and drawings. Each project designates a skill level, recommends wood species, provides a material list, lists tool requirements, and references additional resources contained in the appendices.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

The Router Workshop (Multi-component Resource). (The Router Workshop). Oak Park Enterprises Ltd. (OAK PARK ENTERPRISES LTD.).

This multi-component Manitoba resource is recommended for Grade 5-Senior 4 students. It is a six-volume teacher resource; each volume contains one project book and four videos. The project books outline individual, router-based projects with an indication of skill level, equipment required, material lists, written explanations, supporting diagrams/explanations, and relevant safety options. The accompanying videos provide live demonstrations. The videos show relevant set up, procedures, and safety considerations. Each video features a minimum of five and a half hours of woodworking instruction. It demonstrates moderate coverage of router-specific safety skills.

The Router Workshop: Volume 1: Series 100: Router Projects. 1st Edition. Rosendahl, Robert. (The Router Workshop). Oak Park Enterprises Ltd. (OAK PARK ENTERPRISES LTD.), 1999. ISBN 0-919823-05-X.

The video/book package covers the following projects: Heart Frame, Dovetail Bookstand, Magic Boxes, Box Joint Drawers, Angle Clock, Pen Storage, Mug Tree/Pen Stand, Table and Stools, Panels, Wheels and Circles, Oval Picture Frame, Inlay Heart Tray, Drawers, and Wall Shelf.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

The Router Workshop: Volume 2: Series 200: Router Projects. 1st Edition. Rosendahl, Robert. (The Router Workshop). Oak Park Enterprises Ltd. (OAK PARK ENTERPRISES LTD.), 1999. ISBN 0-919823-06-8.

The video/book package covers the following projects: Full Length Mirror, Tissue Box Cover, Scallop Mirror Frame, Candy Dishes, Wall Coat Rack, Dovetail Liner Box, Curved Leg Table, and Bath Vanity.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

The Router Workshop: Volume 3: Series 300: Router Projects. 1st Edition. Rosendahl, Robert. (The Router Workshop). Oak Park Enterprises Ltd. (OAK PARK ENTERPRISES LTD.), 2000. ISBN 0-919823-07-6.

The video/book package covers the following projects: Kitchen Cabinet Door, Night Stand, Nesting Table, Pedestal Table, CD Dowel Storage, End Table, Six Sided Basket, Swiss Railing, and Swiss Cabinet.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

The Router Workshop: Volume 7: Series 700: Router Projects. 1st Edition. Rosendahl, Robert. (The Router Workshop). Oak Park Enterprises Ltd. (OAK PARK ENTERPRISES LTD.), 2000. ISBN 0-919823-11-4.

The video/book package covers the following projects: Part 1: Table, Part 2: Cart, Trivets, Writing Box, Swiss Chair, Step Drawers, Photo Privacy Screen, Crescent Table, Corner Cabinet Bottom, Corner Cabinet Top, Inlay Coffee Table, and Hang a Door.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

The Router Workshop: Volume 8: Series 800: Router Projects. 1st Edition. Rosendahl, Robert. (The Router Workshop). Oak Park Enterprises Ltd. (OAK PARK ENTERPRISES LTD.), 2000. ISBN 0-919823-12-2.

The video/book package covers the following projects: China Inlaid Chest, The Wooden Wagon, Library Stool, Novelty Corner Shelf, Magazine Table, Nut and Candy Carrousel, The Tea Tray, The Chest Lamp, Knick-Knack Shelves, Towel Bars, and Dart Board Cabinet.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

The Router Workshop: Volume 9: Series 900: Router Projects. 1st Edition. Rosendahl, Robert. (The Router Workshop). Oak Park Enterprises Ltd. (OAK PARK ENTERPRISES LTD.), 2000. ISBN 0-919823-13-0.

The video/book package covers the following projects: The Laundry Hamper, The Butterfly House, The Garden Swing, The Recycle Bin, Data Cube and Clock Book, The Ironing Board Cabinet, The Fan Box, The Bread Box, and The Patio Planter.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

Technology in Action. Second Edition (Multi-component Resource). (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED).

This multi-component resource is recommended for Grade 5-Senior 4 students. It depicts technology in daily life, including technological inventions, automation, using energy, how technology affects you, and technology and the future. It includes a student text, an interactive CD-ROM, and a teacher resource guide. The resource provides interesting facts, safety notes, references, and related math and science concepts. It is presented in a factual manner, allowing students to research, discuss, and draw their own conclusions. The resource demonstrates moderate coverage of personal skills and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes, and uses both metric and imperial systems of measurement.

Technology in Action (Student Book). Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 512 p. ISBN 0-07-822489-6.

The student book covers a wide variety of topics related to a broad-based technology program. Topics include Using Technology, How Technology Affects You, Inventing Things, How Things Work, Exploring Automation, Using Energy, and Technology and Your Future. It

includes a comprehensive index and glossary.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Technology in Action Interactive CD-ROM. Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. ISBN 0-07-822491-8.

There are two sections to the CD: the student portfolio and the teacher desk. The student portfolio includes resources supplementary to the text, interactive activities, and a template for creating a portfolio. The teacher desk contains rubrics, related information, a test generator, transparencies, lesson plans, handouts, suggested activities, and ideas on how to make the classroom inclusive in a cooperative setting.

System Requirements:
Windows
- Windows 95
- Internet Explorer 5.0 or Netscape 4.7
- QuickTime 3.0

Macintosh
- OS 9.0
- Internet Explorer 4.5 or Netscape 4.7
- QuickTime 3.0
- AppleWorks 6.0

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth; Teacher Reference; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Technology in Action Teacher Resource Guide. Second Edition. Thode, Brad. (Technology in Action). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 320 p. ISBN 0-07-822490-X.

The teacher's resource guide contains supplementary resources related to the text, including overheads, activities, lesson plans, sample tests, safety information, and a rationale for teaching Technology Education.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Drafting Design Technology; Electricity/Electronics Technology; Graphic Communication Technology; Power Mechanics Technology; Woodworking Technology

Wood Technology and Processes. 5th Edition (Multi-component Resource). (Wood Technology and Processes). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED).

This multi-component resource is recommended for Grade 5-Senior 4 students. It discusses woodworking concepts and skills and provides step-by-step processes for major tasks that allow a hands-on approach to woodworking. The resource includes a student book, a workbook, and a teacher resource guide. It demonstrates extensive coverage of fundamental skills, extensive coverage of personal skills, and extensive coverage of safety concepts from the Industrial Arts curriculum framework of outcomes. It uses both metric and imperial systems of measurement.

Wood Technology and Processes (Student Book). 5th Edition. Feirer, Mark D. (Wood Technology and Processes). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 591 p. ISBN 0-07-822411-X.

The student book discusses layout, wood, portable power tools and operations, joinery, stationary machines, finishing, and construction. It includes many project suggestions and features a comprehensive glossary and index.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Student - Breadth and Depth; Woodworking Technology

Wood Technology and Processes Student Workbook. 5th Edition (Multi-component Resource). Feirer, Mark D. (Wood Technology and Processes). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 158 p. ISBN 0-07-822413-6.

The workbook is recommended as a supplementary teacher resource. It contains activities that address safety, basic tool operations, joinery, and machine use. Science and math activities are also included.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

Wood Technology and Processes Teacher Resource Guide. 5th Edition. Feirer, Mark D. (Wood Technology and Processes). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2002. 256 p. ISBN 0-07-822412-8.

The teacher resource guide provides tests and answer keys for major content areas in the student book, as well as information on scope and sequence, current resources, safety precautions, and course planning ideas. It outlines woodworking career opportunities and includes woodworking handouts that reinforce/extend student skills.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

Working Wood: A Complete Bench-Top Reference (Print). Tolpin, Jim. Davis Publications (FITZHENRY & WHITESIDE LIMITED), 1997. 202 p. ISBN 0-87192-301-7.

This is a single-source book that provides concise answers to common woodworking questions on tools, processes, and techniques in an easy-to-reference bench-top style. The book is divided into sections that address wood, hand tools, power tools, and shop set-up. A comprehensive index, glossary, and reference system are included. The book demonstrates extensive coverage of fundamental skills and moderate coverage of safety concepts from the Industrial Arts curriculum framework of outcomes, and uses both metric and imperial systems of measurement.

Suggested Use: Middle Years (5-8); Senior Years (S1-S4); Teacher Reference; Woodworking Technology

Senior Years Resources

Glencoe Carpentry and Building Construction (Multi-component Resource). (Glencoe Carpentry and Building Construction). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED).

This multi-component resource is recommended for Senior 1-Senior 4 students. It addresses residential and light construction. It covers the entire construction process from planning, estimating, and scheduling through the finishing process. It includes a student text, an instructor productivity CD-ROM, an instructor resource guide, and a safety guide book. It provides moderate coverage of personal skills and extensive coverage of safety concepts from the Industrial Arts curriculum framework of outcomes, and uses both metric and imperial systems of measurement.

Glencoe Carpentry and Building Construction (Student Book). Feirer, Mark D. (Glencoe Carpentry and Building Construction). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2004. 992 p. ISBN 0-07-822702-X.

The student book addresses residential and light commercial construction. The chapters cover the entire construction process from planning, estimating, and scheduling through the finishing process. It includes an index and a glossary.

Suggested Use: Senior Years (S1-S4); Student - Breadth and Depth; Woodworking Technology

Glencoe Carpentry and Building Construction Instructor Productivity CD-ROM. Feirer, Mark D. (Glencoe Carpentry and Building Construction). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2004. ISBN 0-07-825347-0.

The CD-ROM features instructional plans, PowerPoint presentation for procedures, safety and building construction processes, and test preparation software.

System Requirements:

- 24 MB RAM
- Windows 98 or later version
- 16X CD-ROM drive

Suggested Use: Senior Years (S1-S4); Teacher Reference; Woodworking Technology

Glencoe Carpentry and Building Construction Instructor Resource Guide. Feirer, Mark D. (Glencoe Carpentry and Building Construction). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2004. 336 p. ISBN 0-07-822704-6.

The instructor resource guide enhances the instruction of the student text. It contains student handouts, aids for lesson planning, and answer keys to chapter review questions.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Woodworking Technology

Glencoe Carpentry and Building Construction Safety Guidebook. Feirer, Mark D. (Glencoe Carpentry and Building Construction). Glencoe/McGraw Hill (MCGRAW-HILL RYERSON LIMITED), 2004. 112 p. ISBN 0-07-825352-7.

The safety book provides guidelines for safety and health on the job. Topics include roles, rights and responsibilities, personal protective equipment, fire and electrical safety, fall protection, tool and equipment usage, and handling and storage of materials.

Suggested Use: Senior Years (S1-S4); Teacher Reference; Woodworking Technology

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